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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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DENNISON, SCHULTZ & MACDONALD				YUEN, KAN
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ALEXANDRIA, VA 22314			2464	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,467	GIRERD ET AL.	
	Examiner	Art Unit	
	KAN YUEN	2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 July 2006.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-10 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 18 July 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

Detailed Action

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

2. Claims 3 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See

MPEP § 608.01(n). Claim 4, 5 and 7 are objected to because they are depending from claim 3. Accordingly, the claims 3-5 and 7 are not been further treated on the merits.

Claim 6 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim can not depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim 6 is not been further treated on the merits.

3. Claims 1-10 are objected to because of the following informalities:

In claim 1, lines 16 and 20, the term “synchronization” should be changed to “synchronization”.

In claim 2, line 5, the term “the said unit”, should be changed to “the unit”.

In claim 3, line 3, the term “a detector” and “the conversion” should be changed to “the detector” and “a conversion” respectively.

In line 12, the term “the interface” should be changed to “an interface”.

In line 12, the term “a network processor (2)” is objected to because the notation “(2)” was previously used for Ethernet network (2).

In line 15, the term “the interface” should be changed to “an interface”.

Appropriate correction is required.

In claim 9, line 5, the term “the acquisition mode” should be changed to “an acquisition mode”.

In line 6, the term “the acquisition trigger source” should be changed to “an acquisition trigger source”.

In line 7, the term “the signals” should be changed to “signals”.

In line 8, the term “the configuration parameters” should be changed to “configuration parameters”.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is generally narrative and indefinite, failing to conform with current U.S. practice.

In claim 1, lines 1-5, the phrase "an installation for the high-speed acquisition of acquisition data via an Ethernet network (2) with several nodes (N), where at least one of the nodes of the Ethernet network constitutes a client/server detection unit (3) with at least one detector (4) delivering acquisition data" is considered vague and indefinite because it is unclear to the Examiner whether the detection unit (3) is part of the installation. The applicant is suggested to re-write claims 1-10 to clearly identify the claimed subject matters.

Claims 2-9 are rejected because they are depending from claim 1.

Claim Rejections - 35 USC § 103

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eidson (Pat No.: 6370159) in view of Aviani et al. (Pat No.: 7401159).

In claim 1, Eidson disclosed an Ethernet network (fig. 8, links 204,220-223) with several nodes (fig. 8, cards 210-213), where at least one of the nodes of the Ethernet network constitutes a client/server detection unit) with at least one detector delivering acquisition data, characterized in that each detection unit (fig. 8, nodes 210-213) includes:

self-triggering resources for reading the acquisition data so that the said detection unit is able to operate independently; reading and processing resources independent of the other nodes (Eidson see column 7, lines 5-50, column 8, lines 7-15, fig. 8). Fig. 8 shows a data acquisition and control system 200 which includes a set of

cards 210-213. The card 213 is the master card which includes a master clock that distributes timing events/packets (acquisition data) to slave clocks in the cards 210-212 and to slave clocks in nodes that are connected to a communication link 204 or Ethernet link (e.g., see column 8, lines 19-22). Since each of the nodes 210-212 obtains timing events/packets individually via communication links (220-223) thus each node reads and processes the timing events/packets independently;

resources for transmission of the acquisition data via the network to at least one other node (Eidson see column 7, lines 10-50, fig. 8). The cards 210-213 communicate timing events/packets (acquisition data) using a set of communication links 220-223 (Ethernet links); and

a clock unit (slave clock 30) allowing correlation between the clocks of the detection units (Eidson see column 7, lines 25-40, fig. 8). The cards 210-213 communicate timing events using a set of communication links 220-223 arranged as a daisy chain. Each of the cards 210-213 includes a daisy chain input port and an output port. Each of the cards 210-213 receives timing events on its input port and issues timing events on its output port. Thus, the daisy chain arrangement allows the nodes to correlate with each other;

where each clock unit has resources for receiving a clock synchronization signal, generated by one of the said units and including encoded instructions (Eidson see column 7, lines 64-67, column 8, lines 1-10). The cards 210-213 communicate the supplemental information using the communication links 220-223. The information may be implemented as a signal packet. A start of frame portion of the signal packet may

indicate the timing event and the supplemental information may be encoded in the remainder of the signal packet; and

resources for processing the encoded instructions, in particular to increment an event-marking sensor (Eidson see column 8, lines 7-24). The card 213 includes a master clock that distributes time values to slave clocks in the cards 210-212 and includes a slave clock that synchronizes to a master clock in a node connected to the link 204. Thus all the cards are synchronized to the master card 213 (increment an event-marking sensor). According to page 9 line 19-20 of the present specification, such an increment is used to synchronize all the clocks of the different nodes;

However, Eidson did not explicitly disclose the feature for transmission of an acknowledge signal to the clock unit transmitting a synchronization signal.

Aviani et al. from the same or similar fields of endeavor disclosed the feature for transmission of an acknowledge signal to the clock unit transmitting a synchronization signal (Aviani et al. see column 6, lines 1-15). When the host server receives the SYN segment, it responds by providing a synchronization and acknowledgment (SYN, ACK) segment to the client, wherein the SYN, ACK segment will include a host sequence number generated by the server. The segment will also include an acknowledgement to the client sequence number, which, according to the conventional TCP protocol.

Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the cards 210-213 as taught by Eidson to include the

feature as taught by Aviani et al. to synchronize the client to the server. The motivation for using the feature being that it provides accuracy in the transmission network.

Regarding claim 2, Eidson disclosed at least one of the nodes of the Ethernet network constitutes a client/server user unit designed to provide the detection unit with configuration data from the unit and to receive acquisition data transmitted by the detection unit (Eidson see column 7, lines 5-50, column 8, lines 7-15). Fig. 8 shows a data acquisition and control system 200 which includes a set of cards 210-213. The cards 210-213 communicate timing events/packets (acquisition data) and supplemental information using a set of communication links 220-223 (Ethernet links).

Regarding claim 8, Eidson disclosed the detector includes: a sensitive sensor with a output path (Eidson see column 3, lines 10-15). The scheduled events may be sampling events wherein the nodes 20-22 include attached sensors or the nodes 14, 20-22 may be sensor nodes (see column 2, lines 54-60); Although Eidson did not explicitly disclose the sensor having multiple output path however it is obvious for a sensor to have multiple output paths. The motivation for having a multiple output paths to improve scalability;

a sub-module (fig. 2, clock synchronization engine 164) for reading the acquisition data, controlled by the sequencer (fig. 2, slave clock 30) and including a frontal electronic unit (fig. 2, periodic signal generator 172, and see column 3, lines 17-40). The clock engine 164 obtains timing data packets from the communication link 12 and synchronizes a slave time value in the local clock 162 using the synchronization protocol 100; and

a control sub-module (fig. 2, comparator 170) managed by the sequencer to configure and control the frontal electronic unit (Eidson see column 3, lines 17-40). The comparator 170 compares the slave time value 184 to an event time held in a register 168. When the slave time value 184 matches the event time in the register 168 the comparator 170 triggers a periodic signal generator 172 which generates a waveform 180.

8. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eidson (Pat No.: 6370159) in view of Aviani et al. (Pat No.: 7401159) as applied to claim 8 above, and further in view of Feher (Pub No.: 2006/0088121).

For claim 9, Eidson disclosed the features for reading the acquisition data, and for receiving the configuration parameters (Eidson see column 3, lines 17-40). The event time is provided by a computation engine 166 (configuration parameter). When the slave time value 184 (acquisition data) matches the event time in the register 168 the comparator 170 triggers a periodic signal generator 172 which generates a waveform 180.

However, Eidson did not explicitly disclose the features for selecting the acquisition mode, and for selecting of the acquisition trigger source, and the resources for amplification and shaping of the signals.

Feher from the same or similar fields of endeavor disclosed the features for selecting the acquisition mode, and for selecting of the acquisition trigger source, and

the resources for amplification and shaping of the signals (Feher see paragraphs 0111 and 0114). Selecting one or more shaped clock signals, wherein the shaped clock signals can be broadly interpreted as the acquisition mode and acquisition trigger source; cross-correlating and quadrature modulating the selected at least one shaped clock signal; amplifying the cross-correlated quadrature modulated signal.

Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the feature as taught by Feher in the network of Eidson and Aviani et al. The motivation for using the feature being that it improves signal strength and thus reduces transmission error.

Regarding claim 10, Eidson disclosed the feature the control sub-module (fig. 2, comparator 170) includes resources to control the frontal electronic unit (fig. 2, periodic signal generator 172) and to control the detector (Eidson see column 3, lines 17-40). The comparator 170 triggers/controls a periodic signal generator 172 which generates a waveform 180.

Allowable Subject Matter

9. Claims 3-7 are would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Examiner's Note:

Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAN YUEN whose telephone number is (571)270-1413. The examiner can normally be reached on Monday-Friday 10:00a.m-3:00p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky O. Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kan Yuen/
Examiner, Art Unit 2464

/Ricky Ngo/
Supervisory Patent Examiner, Art
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KY